Deep Bark Canker
Lyndon C. Brown and Beth Teviotdale

Additional tensiometers were placed in the 19-year-old Hartley walnut orchard belonging to H. O. Stevenson. This was to facilitate the timing and amount of irrigation water applied during the summer months.

A survey was made in October, 1975, which showed there were a total of 116 trees showing bleeding, cracking and bark discoloration associated with deep bark canker. There are 268 trees in the orchard, and 43.3% of these trees (116) show DBC symptoms.

It was determined that the water infiltration rate into the soil was impeded by surface puddling and compaction. To effect an improvement, two middles were seeded to Blando brome in October and two middles were disked 2-3" deep before being seeded to the brome. The rest of the orchard was left in non-cultivation with shredding periodically to control vegetative growth.

Tensiometer readings in the summer of 1976 showed that the healthy trees received adequate water at all levels at 18"-36" and 60" depths. The poor trees either did not receive enough water or (in two cases) more water than their root systems could adequately absorb—causing poor root development and functioning.

A visual survey of the trees in the orchard was again made in September, 1976. There were 66 trees showing some - to - slight bleeding and 17 trees bleeding heavily, for a total of 83. This is a decrease in DBC symptoms from 116 trees in '75 to 83 trees in '76--or a 12.3% reduction.

The improvement in general tree health of the orchard may be a reflection of more water and hence, less tree stress during the summer months. The grass cover crops did not appear to help increase infiltration the first year.

Deep Bark Canker
L. C. Hendricks, Beth Teviotdale, and Bill Moller

Mapping of two rows of trees in an orchard in Los Banos, Merced County, was begun in May, 1976, to record the progress of cankers throughout the year. Bleeding cankers were marked with red paint on August 31st and December 16th to denote cankers which had been previously counted. In this orchard the numbers of cankers at the first counting ranged from 2 to 7 per tree. Low numbers continued until November when numbers were from 22 to 47 per tree.

By December 16th, the lowest number on any tree was 26 and the highest 118.

There are several possible explanations for the great increase in numbers of cankers. One of the most likely explanations is that the August and September